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# **INDIA'S POPULATION : DEMOGRAPHIC SCENARIO**

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**DEPARTMENT OF FAMILY WELFARE  
MINISTRY OF HEALTH AND FAMILY WELFARE  
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## INTRODUCTION

Planning in India aims at economic growth with social justice and the planning process from its very start in 1951 recognised the inter-relationship between population and the socio-economic development. Thus the integration of population policies into the development process is now increasingly being recognised as essentials for human resources development. Towards this and the country has set before itself the long-term demographic goal of achieving Net Reproduction Rate of unity by the turn of this century with a birth rate of 21, death rate of 9 and infant mortality of less than 60.

India among the developing countries presents a unique case in terms of the sheer size of its population characterised by diversities in terms of physical, economic, social and cultural conditions. With current population of around 776 million, its age pyramid is a harbinger of tremendous growth potential. Against this background, this paper presents a brief survey of the growth of the population in terms of fertility and mortality based on the latest available data from the Sample Registration System.

## 2. POPULATION GROWTH

India has had twelve decennial censuses the first being in 1872. These censuses are the major source of data on the demographic trends in the country. According to the latest census of 1981, the population of India was 685 million while in 1901 it was only 238 million; a near three-fold increase. The following statement presents the data on the demographic trends in the country.



STATEMENT - 1

DEMOGRAPHIC TRENDS IN INDIA, 1901-1981

Census Year	Total popu- lation (in mil- lions)	Annual expon- ential growth rate (per cent)	Sex ratio (Female per 1000 males)	Density of popu- lation per sq. km.	Birth rate per 1000 popu- lation for decade	Death rate per 1000 popu- lation for decade
1	2	3	4	5	6	7
1901	238.4	-	972	77	-	-
1911	252.1	0.56	964	82	49.2	42.6
1921	251.3	(-) 0.03	955	81	48.1	47.2
1931	279.0	1.04	950	90	46.4	36.3
1941	318.7	1.33	945	103	45.2	31.2
1951	361.1	1.25	946	117	39.9	27.4
1961	439.2	1.96	941	142	41.7	22.8
1971	548.2	2.20	930	173	41.2	19.0
1981	685.2	2.25	933	216	37.2	15.0

The year 1921 is considered as the 'great divide' in the demographic history of India. During 1911-21, the population of the country was stable at high mortality and fertility levels, the birth rate of 48 per thousand and death rate of 47 per thousand. The period from 1921 to 1951 (the first census after Independence) was one of slow but steady growth mainly because of gradual reduction in mortality.



Thereafter followed the period of rapid growth. Social and economic developments, including those relating to public health and medical care, under the Five Year Plans led to a rapid mortality decline. During the last three decades mortality declined by nearly 60 per cent from 27.4 in 1951 to 11.7 per thousand in 1985 while expectancy of life at birth has increased from 32 years to the current level of around 55 years.

This welcome decline in mortality is the result of the elimination of famines and epidemics. During the last three decades, the country has had the usual number of droughts but no death from famine. At the same time plague and smallpox have been eradicated and malaria deaths have been brought down. Health service coverage has improved the survival chance of the new born infants and expectant mothers.

For more recent years, data on vital rates are available from a dual record system called, the Sample Registration System (SRS) introduced in 1965. The SRS estimates of infant mortality rate for the country as a whole suggest that it has declined from 140 per 1000 live births in 1975 to 95 in 1985. The health policy lays particular emphasis on maternal and child health care precisely in the light of need of and scope for reduction in infant mortality.

The decline in mortality has resulted in accelerated population growth. The annual exponential growth rate of population was as high as 2.25 per cent for the decade 1971-81. Since Independence there has been a near doubling of the country's population. The absolute addition to the population in the single decade of 1971-81 is 137 million. It has indeed been said that the annual increase in India's population exceeds the total population of Australia.

We may however, note that the 1981 census data indicate change in trends which may be said to be redeeming.

These are:

- (i) The acceleration in the population growth rate witnessed since 1921 has been slowed down.



- (ii) There is trend of rise in the age of marriage.
- (iii) There has been some relative improvement in sex ratio in favour of women and in female expectancy of life at birth both of which are suggestive of improved status of women.

It is clear from the earlier Statement-1 that the population growth rate has been increasing very rapidly. There was a four fold increase in the population growth rate in the first seven decades of the century rising from 0.56 per cent in 1901-11 to 2.20 per cent in 1961-71. The growth rate since 1951 has been higher than the peak population growth rate of 1.5 per cent experienced by developed countries. However, the population growth rate in 1971-81 was almost the same as in the previous decade.

### 3. SEX RATIO

In India, the sex ratio (defined as the number of females per 1000 males) has historically been adverse to females owing to a number of cultural and social factors. There had been a steady deterioration in this respect over the decade except during 1941-51 as revealed by the decline in the sex ratio from 972 to 930 during the period 1901-71. However, in the last decade, 1971-81, there has been a slight improvement in this aspect as shown by an increase in the sex ratio to 933 in 1981.

### 4. AGE COMPOSITION

The percentage of population in the age-group 0-14 was 41.1 in 1961, 42.0 in 1971 and 39.6 in 1981. The 1981 census age distribution further revealed a decline in the percentage of population in the two youngest quinquennial age-groups from 14.5 per cent in 1971 to 12.6 per cent in 1981 for 0-4 age group, and from 15.0 percent to 14.1 percent for the 5-9 age group.

Even today, the broad-base of the age pyramid of India's population may be viewed as imposing certain constraints in terms of investment decisions. The dependency ratio (i.e. the number of persons in the age groups 0-14 and 60+ per 100 persons in age-group 15-59) was 85 in 1981 as against 92 in 1971.



Still the young age structure of the population holds the potential for the rapid population growth in the future years unless special measures for more accelerated reduction in fertility are taken. This would become clear from the fact that even in a low fertility profile in next 14 years, the number of couples in reproductive age-group will increase to around 170 million from the present level of 130 millions. It has to be, however, noted that the number of females in the age-group 15-44 years and the number of married keeps on increasing.

## 5. NUPTIALITY PATTERN

The social and cultural milieu of India has long favoured early and universal marriages. The mean age at marriage for males and females rose from 20 and 13 years in 1901 to 21 and 15 years in 1961 respectively. However, during the last two decades the practice of early marriage has been on the decline. This is reflected in the 1981 census which recorded the mean age at marriage for males and females at 23.3 and 18.3 years respectively. Further, the percentage of never married women in rural areas in 1981 was 45 per cent as compared to 41 per cent in 1961. The relevant figures for urban areas are 50 per cent for 1981 and 46 per cent for 1961. This can be attributed to Governmental efforts at raising the status of women by providing increasing educational and economic activities. Increase in the age of marriage for females has favourable implications as far as the process of fertility decline is concerned.

## 6. MEASURES OF FERTILITY

### A. Birth Rate:

Birth rate is the most commonly used measure of fertility. For the year 1985, the birth rate of India is estimated at 32.7 per thousand population. The rate for rural areas in general is much higher than that for urban areas. The statement at next page gives the birth rate by major states for rural and urban areas of the country.

It may be seen that the state of Kerala is having the lowest birth rate and Rajasthan having the highest birth rate followed by Madhya Pradesh, Uttar Pradesh and Bihar.



STATEMENT - 2

**BIRTH RATE BY RURAL/URBAN,  
INDIA AND MAJOR STATES 1985**

INDIA/STATES	RURAL	URBAN	TOTAL
INDIA	34.0	28.0	32.7
Andhra Pradesh	29.2	29.6	29.3
Assam	35.0	25.0	34.3
Bihar	38.3	30.9	37.6
Gujarat	33.5	31.1	32.7
Haryana	36.3	32.6	35.5
Himachal Pradesh	30.7	23.7	30.2
Jammu & Kashmir	35.1	25.0	32.9
Karnataka	30.1	26.2	29.0
Kerala	22.6	24.1	22.9
Madhya Pradesh	40.3	32.8	38.8
Maharashtra	29.6	27.7	28.9
Orissa	30.6	27.7	30.3
Punjab	29.1	27.6	28.7
Rajasthan	40.7	32.9	39.2
Tamil Nadu	25.3	23.8	24.8
Uttar Pradesh	39.0	31.6	37.6
West Bengal	32.1	19.9	28.6

The states of Kerala, Tamil Nadu, Punjab, Maharashtra, West Bengal and Karnataka have relatively low rural as well as urban birth rates. On the other extreme, Rajasthan, Madhya Pradesh, Uttar Pradesh, Bihar and Haryana have relatively very high birth rates for both rates for both rural as well as urban areas. The categorisation of states having B.R. below and above all India level is given below:

- a) States with B.R. below all India level: Andhra Pradesh, Gujarat, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Orissa, Punjab, Tamil Nadu & West Bengal.



- b) States with B.R. above all India level: Assam, Bihar, Haryana, Jammu & Kashmir, Madhya Pradesh, Rajasthan and Uttar Pradesh.

#### B. General Fertility Rate:

General fertility rate (GFR) is yet another measure of fertility expressed as the number of live births per thousand of women in the reproductive age group 15-49 years. Based on the SRS estimates available for the latest year 1984, this is found to be 153.1 for rural areas of India, 120.2 for the urban areas and 145.2 for rural and urban combined (Statement 3). State-wise rates indicates wide variations. The lowest rate is 83.6 for Kerala and the highest is 180.7 for Uttar Pradesh and 180.5 for Rajasthan. Rural rates are much higher than the urban rates in all states. While the rural rates vary in the range of 83 to 188.7, urban rates vary in the range of 83.6 to 153.0. A broad grouping of states on the basis of the rates for rural and urban areas combined is as follows:

<u>G.F.R. RANGE</u>	<u>STATES</u>
Below 100	Kerala
100-125	Tamil Nadu
125-150	Andhra Pradesh, Assam, Himachal Pradesh, Jammu & Kashmir, Gujarat, Punjab, West Bengal, Orissa, Karnataka, and Maharashtra.
150-175	Haryana and Madhya Pradesh.
175-200	Bihar, Rajasthan and Uttar Pradesh.

STATEMENT - 3

GENERAL FERTILITY RATES BY RURAL/URBAN,  
INDIA AND MAJOR STATES, 1984

INDIA/STATES	RURAL	URBAN	TOTAL
INDIA	153.1	120.2	145.2
Andhra Pradesh	133.1	121.0	130.4
Assam	142.1	96.4	138.4
Bihar	188.7	153.0	185.1
Gujarat	142.6	123.9	136.7
Haryana	175.7	137.9	166.9
Himachal Pradesh	128.9	96.2	126.8
Jammu & Kashmir	154.6	103.4	142.6
Karnataka	129.4	114.4	125.2
Kerala	83.0	86.0	83.6
Madhya Pradesh	171.3	136.6	164.1
Maharashtra	132.5	118.5	127.4
Orissa	136.8	124.4	135.7
Punjab	127.8	117.5	125.1
Rajasthan	187.6	151.9	180.5
Tamil Nadu	110.3	103.4	108.0
Uttar Pradesh	188.2	150.5	180.7
West Bengal	148.6	83.6	129.2

Over the years, there has been a decline in the general fertility rate. A comparison of the GFRs for the periods 1976-78 and 1982-84 as given in Statement 4 shows highest decline (9%) in Gujarat, Kerala and Tamil Nadu. The other states which have also registered a decline are Andhra Pradesh (5%), Jammu & Kashmir (1%), Madhya Pradesh (1%), Punjab (5%) and Uttar Pradesh (1%). The remaining states have, however, registered an increase in 1982-84 as compared to 1976-78, the state of Rajasthan recording the highest increase of 17%. At the All India level also there has been an increase of 1%.



STATEMENT - 4

**AVERAGE GENERAL FERTILITY RATES FOR INDIA AND  
MAJOR STATES, 1976-78 AND 1982-84**

INDIA/STATES	1976-78	1982-84	INDEX WITH 1976-78 = 100
INDIA	141.9	143.6	101
Andhra Pradesh	135.5	128.3	95
Assam	131.9	137.6	104
Gujarat	153.1	139.3	91
Haryana	156.5	162.4	104
Himachal Pradesh	130.0	131.3	101
Jammu & Kashmir	138.4	137.2	99
Karnataka	115.8	119.9	104
Kerala	100.2	90.8	91
Madhya Pradesh	167.9	165.7	99
Maharashtra	113.2	124.1	110
Orissa	133.4	136.9	103
Punjab	133.5	127.0	95
Rajasthan	151.3	176.7	117
Tamil Nadu	118.7	107.5	91
Uttar Pradesh	178.8	176.3	99

**C. Age specific fertility rates:**

The age pattern of fertility is indicated by the age specific fertility rates. Statement-5 shows the age specific fertility rates for India, 1984. It is observed that fertility is relatively low in the age-group 15-19 years but shoots up sharply to reach a peak in the age-group 20-24 years and remains almost equally high in the age group 25-29 years but comes down very much thereafter at an accelerated pace with increase in age. The rural age specific fertility rates are very much higher than the corresponding urban rates, because the level of fertility in rural areas is higher than that in urban areas. However, the age pattern of fertility is quite similar in both the areas.

STATEMENT - 5

**AGE SPECIFIC FERTILITY RATES  
BY RURAL/URBAN INDIA, 1984**

SECTOR	AGE-GROUP						
	15-19	20-24	25-29	30-34	35-39	40-44	45-49
Rural	92.9	266.9	246.4	174.6	106.6	53.3	25.2
Urban	63.3	228.0	204.5	115.4	59.9	22.6	8.8
Total	85.8	257.0	235.9	160.4	95.7	46.7	21.7

The age specific fertility in different states is broadly similar to the aforementioned pattern. Statement 6 shows that the peak age-group in most of the states is 20-24 years. In exceptional cases the age group 25-29 years is found to be the peak age-group for Assam, Bihar, Jammu & Kashmir, Punjab and Uttar Pradesh. Kerala having the lowest birth rate is found to have the lowest age specific fertility rates in all the age-groups. On the other extreme, Rajasthan is found to have the highest age-specific fertility rates in most of the age-groups and is having the highest birth rate. The age Specific Fertility Rate is also observed to have registered an increase in the age groups 20-24 and 25-29 which are the most fertile age groups at all India level both in rural as well as urban areas in 1984 as compared to 1983. The states of Bihar, Haryana, Karnataka, Maharashtra and Uttar Pradesh have also registered an increase in 1984 as compared to 1983 in these two age groups. The states which have recorded an increase in 20-24 age group are Orissa, Rajasthan & Tamil Nadu whereas the states of Andhra Pradesh, Assam and Jammu & Kashmir have recorded an increase in (25-29) age group.



STATEMENT - 6

**AGE SPECIFIC FERTILITY RATES, INDIA  
AND MAJOR STATES, 1984**

INDIA/STATES	15-19	20-24	25-29	30-34	35-39	40-44	45-49
INDIA	85.8	257.0	235.9	160.4	95.7	46.7	21.7
Andhra Pradesh	125.0	249.7	196.8	120.0	63.3	29.5	11.8
Assam	84.3	214.4	235.7	172.4	102.4	41.7	3.8
Bihar	116.0	265.6	288.9	216.8	157.6	85.0	56.6
Gujarat	41.7	292.0	231.2	130.0	65.2	27.3	8.9
Haryana	79.6	312.4	278.1	176.0	90.5	38.7	16.2
Himachal Pradesh	63.8	278.0	215.3	133.8	54.7	25.1	1.1
Jammu & Kashmir	52.1	228.2	258.7	198.4	119.4	54.8	17.1
Karnataka	86.9	233.5	198.3	124.9	70.3	32.7	12.3
Kerala	37.9	168.4	158.5	69.8	32.9	12.4	3.4
Madhya Pradesh	121.0	292.0	253.6	167.3	113.9	56.5	22.5
Maharashtra	91.8	268.8	210.4	119.2	50.3	19.0	6.1
Orissa	72.2	273.7	237.2	154.8	78.5	32.2	12.3
Punjab	27.9	233.9	253.0	139.8	70.4	21.3	4.4
Rajasthan	107.7	304.6	278.0	211.5	128.8	69.4	33.2
Tamil Nadu	61.6	231.6	194.0	107.0	46.3	14.2	4.0
Uttar Pradesh	89.5	280.0	290.9	228.1	156.2	83.7	47.7
West Bengal	84.2	220.0	200.3	135.4	85.2	36.0	14.4

**D. Total Fertility Rate:**

The cumulated value of the age specific/fertility rates at the end of the reproductive period gives a measure of fertility known as total fertility rate (TFR). This is independent of age & sex composition of the population and indicates the average number of children expected to be born per woman during the entire span of reproductive period, if the age specific fertility rates continue to be the same and there is no mortality. The TFRs worked out on the basis of ASFRs of 1984 are given in Statement-7.

The TFR for India is found to be 4.5. Bihar, Haryana, Jammu & Kashmir, Madhya Pradesh, Rajasthan and Uttar Pradesh have higher value than this. Bihar has the highest TFR (5.9). On the other extreme Kerala has the lowest TFR (2.4). The values for different states fall in the following ranges.

<u>TFR RANGE</u>	<u>STATES</u>
2.0 - 3.0	Kerala
3.0 - 4.0	Himachal Pradesh, Punjab, Karnataka, Maharashtra, Tamil Nadu & West Bengal.
4.0 - 5.0	Andhra Pradesh, Assam, Gujarat, Jammu & Kashmir, Madhya Pradesh and Orissa.
5.0 - 6.0	Bihar, Haryana, Madhya Pradesh, Rajasthan & Uttar Pradesh.

STATEMENT - 7

TOTAL FERTILITY RATES BY RURAL/URBAN  
INDIA AND MAJOR STATES, 1984

<u>INDIA/STATES</u>	<u>RURAL</u>	<u>URBAN</u>	<u>TOTAL</u>
INDIA	4.8	3.5	4.5
Andhra Pradesh	4.1	3.5	4.0
Assam	4.4	2.8	4.3
Bihar	6.0	4.9	5.9
Gujarat	4.2	3.4	4.0
Haryana	5.3	3.8	5.0
Himachal Pradesh	4.0	2.6	3.9
Jammu & Kashmir	5.1	3.2	4.6
Karnataka	4.0	3.3	3.8
Kerala	2.4	2.4	2.4
Madhya Pradesh	5.4	4.0	5.1



INDIA/STATES	RURAL	URBAN	TOTAL
Maharashtra	4.1	3.3	3.8
Orissa	4.4	3.6	4.3
Punjab	3.9	3.3	3.8
Rajasthan	6.0	4.5	5.7
Tamil Nadu	3.5	3.0	3.3
Uttar Pradesh	6.2	4.8	5.9
West Bengal	4.5	2.4	3.9

A comparison of TFRs for the period 1976-78 and 1982-84 indicates that TFR has shown an increase in the states of Rajasthan (12%) and Maharashtra (6%) whereas it did not record any change in the states of Assam, Haryana, Himachal Pradesh, Karnataka & Orissa. In the remaining states, there has been decline in the states of Gujarat & Kerala recording highest decline of 16% each. At All India level, TFR has declined by 2 per cent.

#### STATEMENT - 8

#### TOTAL FERTILITY RATES INDIA AND MAJOR STATES 1976-78 AND 1982-84

INDIA/STATES	1976-78	1982-84	INDEX WITH 1976-78 = 100
INDIA	4.6	4.5	98
Andhra Pradesh	4.3	3.9	91
Assam	4.2	4.2	100
Gujarat	4.9	4.1	84
Haryana	4.9	4.9	100
Himachal Pradesh	4.0	4.0	100
Jammu & Kashmir	4.6	4.5	98

INDIA/STATES	1976-78	1982-84	INDEX WITH 1976-78 = 100
Karnataka	3.7	3.7	100
Kerala	3.1	2.6	84
Madhya Pradesh	5.5	5.2	95
Maharashtra	3.6	3.8	106
Orissa	4.4	4.4	100
Punjab	4.4	3.9	89
Rajasthan	5.0	5.6	112
Tamil Nadu	3.7	3.3	89
Uttar Pradesh	6.0	5.8	97

#### E. Gross Reproduction Rate:

When the age specific fertility rates are calculated on the basis of female births only, then the cumulated value of these ASFR's at the end of the reproductive period is known as gross reproduction rate (GRR). This would indicate the average number of female children expected to be born per woman during the entire reproductive span of 15-49 years, if there is no mortality and fertility schedules represented by the age specific fertility rates continue to remain the same. This is also considered as replacement index as it provides an indication as to whether the females of one generation would be replaced by a smaller or a larger or equal number of female in the succeeding generation under assumptions of constant fertility and no mortality. The GRRs for India and major states are given in Statement-9. The GRRs for India is found to be 2.2. State-wise variations in the range of 1.2 to 2.8. Kerala is having the lowest GRR while Bihar and Uttar Pradesh are having the highest GRR. The rural rates are higher than the urban rates in all states excepting Kerala in which case the rates are same. The rates for rural areas are in the range of 1.2 to 2.9, while the rates for urban areas are in the range of 1.2 to 2.2. The values of GRR for different states fall in the following ranges.



<u>GRR Range</u>	<u>States</u>
1.0 - 1.5	Kerala
1.5 - 2.0	Andhra Pradesh, Gujarat, Himachal Pradesh, Karnataka, Maharashtra, Punjab, Tamil Nadu & West Bengal.
2.0 - 2.5	Assam, Haryana, Jammu & Kashmir and Orissa.
2.5 - 3.0	Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh.

**STATEMENT - 9**

**GROSS REPRODUCTION RATES BY RURAL/URBAN,  
INDIA AND MAJOR STATES, 1984**

<u>INDIA/STATES</u>	<u>RURAL</u>	<u>URBAN</u>	<u>TOTAL</u>
India	2.3	1.7	2.2
Andhra Pradesh	2.0	1.7	1.9
Assam	2.1	1.3	2.0
Bihar	2.9	2.2	2.8
Gujarat	2.0	1.6	1.9
Haryana	2.4	1.8	2.3
Himachal Pradesh	2.0	1.3	1.9
Jammu & Kashmir	2.4	1.4	2.2
Karnataka	1.9	1.6	1.8
Kerala	1.2	1.2	1.2
Madhya Pradesh	2.6	2.0	2.5
Maharashtra	2.0	1.6	1.8
Orissa	2.1	1.6	2.0
Punjab	1.7	1.5	1.7
Rajasthan	2.8	2.1	2.7
Tamil Nadu	1.7	1.5	1.6
Uttar Pradesh	2.9	2.2	2.8
West Bengal	2.2	1.2	1.9

## 7. MEASURES OF MORTALITY

### A. Death Rate

The estimated death rate for India for 1985 is found to be 11.7 per thousand population. The rate for rural areas is very much higher than that for the urban areas. Among the major states, Uttar Pradesh has the highest death rate. Assam, Bihar, Madhya Pradesh, Orissa and Rajasthan are other states which have higher death rates than the national average. Kerala has the lowest death rate. Rural urban difference is very high in almost all the states. The following table provides the death rate by rural/urban for major states and India.

#### STATEMENT - 10

##### ESTIMATED DEATH RATE BY RURAL/URBAN INDIA AND MAJOR STATES - 1985

INDIA/STATES	RURAL	URBAN	TOTAL
India	12.9	7.6	11.7
Andhra Pradesh	10.9	7.0	10.1
Assam	13.5	8.4	13.1
Bihar	15.5	8.8	14.9
Gujarat	11.7	8.7	10.7
Haryana	9.6	7.0	9.1
Himachal Pradesh	10.8	6.5	10.5
Jammu & Kashmir	10.3	7.1	9.6
Karnataka	9.6	6.1	8.6
Kerala	6.4	6.6	6.4
Madhya Pradesh	15.1	9.3	13.9
Maharashtra	9.4	6.7	8.4
Orissa	14.5	7.9	13.9
Punjab	9.9	6.7	9.0
Rajasthan	13.8	9.2	12.9
Tamil Nadu	10.9	6.9	9.5
Uttar Pradesh	17.2	9.6	15.8
West Bengal	10.2	6.4	9.1



## B. Mortality by Sex

A comparison of male and female mortality rates for 1984 at the national level (Statement-11) shows very little difference between the two. In the urban areas, the male mortality is slightly higher than the female mortality.

### STATEMENT - 11

#### ESTIMATED DEATH RATES BY SEX AND BY RURAL/ URBAN INDIA, 1984

Sector	Males	Females
Rural	13.5	14.0
Urban	8.8	8.3
Total	12.4	12.8

State-wise male and female death rates in Statement-12 shows higher male mortality in respect of Andhra Pradesh, Assam, Gujarat, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Maharashtra, Punjab and Tamil Nadu although the margin of difference in respect of most of these states is very small or even negligible. Only in respect of Uttar Pradesh, Haryana, Gujarat, Himachal Pradesh and Kerala the margin of difference is relatively high. The mortality is, however, the same for both sexes in West Bengal and higher for females in the other states of Bihar, Haryana, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh.

### STATEMENT - 12

#### ESTIMATED DEATH RATE BY SEX, MAJOR STATE, 1984

INDIA/STATES	Males	Females
Andhra Pradesh	11.2	10.8
Assam	13.8	12.6
Bihar	13.5	15.7

INDIA/STATES	Males	Females
Gujarat	11.0	10.6
Haryana	9.7	12.2
Himachal Pradesh	11.0	9.7
Jammu & Kashmir	10.1	8.8
Karnataka	10.0	9.2
Kerala	7.6	5.3
Madhya Pradesh	14.1	14.4
Maharashtra	9.8	9.0
Orissa	14.0	14.8
Punjab	9.4	8.4
Rajasthan	13.8	14.8
Tamil Nadu	11.5	10.1
Uttar Pradesh	16.6	19.2
West Bengal	10.7	10.7

C) Infant Mortality:

Mortality during infancy is very high. It may be seen from Statement 13 that the infant mortality rate for India for 1985 is 95 per 1000 live births. Among the major states the lowest rate is for Kerala. The highest rate is for Uttar Pradesh. The states of Madhya Pradesh, Orissa, Assam and Rajasthan have also high infant death rate. The rural rates are considerably higher than the urban rates.

STATEMENT - 13

INFANT MORTALITY BY RURAL/URBAN INDIA  
AND MAJOR STATES, 1985

(Provisional)

INDIA/STATES	RURAL	URBAN	TOTAL
Andhra Pradesh	90	58	83
Assam	112	91	111



INDIA/STATES	RURAL	URBAN	TOTAL
Bihar	109	59	105
Gujarat	112	64	98
Haryana	92	58	85
Himachal Pradesh	87	32	84
Jammu & Kashmir	94	44	86
Karnataka	80	41	71
Keraala	32	30	32
Madhya Pradesh	131	78	122
Maharashtra	78	49	68
Orissa	135	78	122
West Bengal	85	48	77
Punjab	77	51	71
Rajasthan	114	72	108
Tamil Nadu	93	53	80
Uttar Pradesh	152	77	140
INDIA	105	57	95

D) Infant Mortality by Sex:-

In some of the states, male infant death rates are higher than female infant death rates, while in many other states, reverse is the case (Statement - 14). There is however, no difference between the male and female infant death rates at the national level. The states with higher male infant death rates are Andhra Pradesh, Assam, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Tamil Nadu and West Bengal. In the remaining states male infant death rates are lower than female infant death rates.

STATEMENT - 14

INFANT DEATH RATES BY SEX, INDIA AND  
MAJOR STATES, 1984

INDIA/STATES	Males	Females
INDIA	104	104
Andhra Pradesh	83	72
Assam	101	96
Bihar	94	96
Gujarat	105	106
Haryana	92	112
Himachal Pradesh	97	83
Jammu & Kashmir	73	82
Karnataka	77	70
Kerala	34	23
Madhya Pradesh	125	116
Maharashtra	77	75
Orissa	132	130
Punjab	66	67
Rajasthan	118	127
Tamil Nadu	79	77
Uttar Pradesh	150	160
West Bengal	85	78

E) Trends in Infant Mortality

There has been some decline in the level of infant mortality over the past few years as indicated by Statement-15. The average infant mortality rates for the period 1983-85 are found to be lower than those for the period 1976-78 except in case of Jammu & Kashmir, the rate for the later period is found to be higher than that for the earlier period which may be due to variation in the field work. The extent of decline is found to be very high (more than 25 per cent) in respect of Andhra Pradesh, Himachal Pradesh, Kerala and Punjab.



STATEMENT - 15

AVERAGE ESTIMATED INFANT MORTALITY RATES, INDIA  
AND MAJOR STATES, 1976-78 AND 1983-85

INDIA/STATES	1976-78	1983-85	INDEX WITH 1976-78 = 100
INDIA	128.7	101.3	79
Andhra Pradesh	121.3	79.3	65
Assam	119.0	101.3	85
Gujarat	135.3	103.3	76
Haryana	111.3	92.3	83
Himachal Pradesh	109.7	84.7	77
Jammu & Kashmir	67.7	78.3	116
Karnataka	84.7	72.0	85
Kerala	48.3	31.3	65
Madhya Pradesh	143.0	122.7	86
Maharashtra	90.7	74.3	82
Orissa	135.7	129.0	95
Punjab	110.0	72.3	66
Rajasthan	141.3	113.0	80
Tamil Nadu	106.0	81.7	77
Uttar Pradesh	174.3	150.0	86

F) Neo-natal and post-natal mortality:

Among infant deaths, neo-natal deaths are generally very high. Statement-16 shows neo-natal mortality rates for India for the year 1984. Post-natal mortality rates are also shown alongwith. It may be seen that neo-natal mortality rates are much higher than post-natal mortality rates in respect of both rural as well as urban areas. Also the neo-natal mortality rates as well as the post-natal mortality rates for rural areas are much higher than the corresponding rates for urban areas.

STATEMENT - 16

**NEO-NATAL AND POST-NATAL MORTALITY RATES  
BY RURAL/URBAN INDIA 1984**

Sector	Neo-natal mortality	Post-natal mortality
Rural	72.2	41.1
Urban	39.7	26.4
Total	65.8	38.2

Among major states, the highest neo-natal mortality rate is 94.4 for Uttar Pradesh (Statement-17). The lowest rate is 21.0 for Kerala. The highest post-natal mortality rate is 60.1 for Uttar Pradesh and the lowest is 7.7 for Kerala. The distribution of states on the basis of neo-natal and post natal mortality rates is as follows:

Neo-natal Mortality Rate	Post-natal mortality rate		
	below 25	25-50	50-75
Below 25	Kerala	-	-
25-50	-	Maharashtra, Punjab, West Bengal	-
50-75	Andhra Pradesh, Karnataka, Tamil Nadu.	Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Rajasthan.	-  Orissa, Uttar
75-100	-	Madhya Pradesh	Orissa, Uttar Pradesh



STATEMENT - 17

NEO-NATAL AND POST-NATAL MORTALITY RATES  
FOR MAJOR STATES, 1984

INDIA/STATES	Neo-natal	Post-natal
Andhra Pradesh	55.1	22.5
Assam	70.1	28.6
Bihar	59.1	35.8
Gujarat	69.0	36.6
Haryana	57.2	43.9
Himachal Pradesh	52.6	37.5
Jammu & Kashmir	50.7	26.9
Karnataka	51.8	21.8
Kerala	21.0	7.7
Madhya Pradesh	78.8	42.0
Maharashtra	49.4	26.7
Orissa	77.2	53.8
Punjab	38.6	27.6
Rajasthan	72.5	49.9
Tamil Nadu	56.3	22.0
Uttar Pradesh	94.4	60.1
West Bengal	49.7	31.8

G) Child Mortality:

The level of mortality among children aged 0-4 years is very high. Statement 18 shows that the child death rate for India for 1984 is 41.2 per thousand child population aged 0-4 years. The rural rate (46.2) is almost twice the urban rate (23.2). Also the female death rate is higher than the male death rate both in rural and urban areas.

STATEMENT - 18

**ESTIMATED DEATH RATES FOR CHILDREN AGED 0-4 YEARS  
BY RURAL/URBAN BY SEX, INDIA (1984)**

Sector	Males	Female	Person
Rural	44.2	48.2	46.2
Urban	22.6	23.8	23.2
Total	39.5	43.0	41.2

State-wise comparison of estimated death rates among children ages 0-4 years shows wide variations (Statement-19). The lowest rate is found to be 8.9 for Kerala, while the highest is found to be 64.0 for Uttar Pradesh. Equally high rate is observed for Madhya Pradesh (52.7), Rajasthan (50.2) and Orissa (47.9) have also very high rates. The rural rates are much higher than the urban rates in all states except Kerala. The rural rates range from 8.8 to 69.6 while the urban rate range from 9.5 to 37.6. The distribution of states according to rural and urban rates is as follows:

Rural Rates	Urban Rates			
	Below 15	15-30	30-45	45 & above
Below 15	Kerala	-	-	-
15-30	Himachal Pradesh, Punjab	Andhra Pradesh	-	-



Rural Rates	Urban Rates			
	Below 15	15-30	30-45	45 & above
30-45	Karnataka	Assam, Haryana, J&K, Maharashtra, T.N., & West Bengal	-	-
45 & Above	-	Gujarat, Madhya Pradesh & Rajasthan	Bihar Orissa, Uttar Pradesh	-

STATEMENT - 19

**ESTIMATED DEATH RATE FOR CHILDREN AGED 0-4 YEARS  
BY RURAL/URBAN MAJOR STATES 1984**

INDIA/STATES	RURAL	URBAN	TOTAL
Andhra Pradesh	29.9	21.6	28.1
Assam	41.4	27.7	40.6
Bihar	48.8	30.1	47.0
Gujarat	45.0	20.9	37.3
Haryana	40.4	21.3	36.4
Himachal Pradesh	29.3	11.8	28.4
Jammu & Kashmir	31.8	21.9	30.1
Karnataka	31.1	14.1	26.6
Kerala	8.8	9.5	8.9
Madhya Pradesh	58.7	27.5	52.7
Maharashtra	31.9	19.0	27.2
Orissa	49.4	32.6	47.9
Punjab	28.0	13.1	24.2
Rajasthan	55.2	26.5	50.2
Tamil Nadu	31.8	18.6	27.5
Uttar Pradesh	69.6	37.6	64.0
West Bengal	35.5	17.2	31.3

## 8. Disquieting features:

Although over the years the secular trend in fertility is showing a gradual decline, there are certain factors which are indeed disquieting and would need close attention, if we were to be serious to reach population stabilisation within a reasonable time. These are:

- i) Already one in seven in the world population is Indian.
- ii) If the current estimated population growth of close to 2 per cent per annum remains unabated, India's population would double its current size to reach a staggering figure of 1.5 billion in the next 35 years.
- iii) The birth rate as obtained from Sample Registration System shows that it has stagnated in the last 7-8 years in spite of substantial increase in the Family Planning practices in the country.
- iv) Large states like Uttar Pradesh, Madhya Pradesh, Bihar, Rajasthan, which constitute 40% of the country's population have still very high birth rates in the neighbourhood of 40.
- v) The TFRs (Total Fertility Rates) of these states lie in the range 5.0 to 6.0 as against All India level of 4.5 (SRS, 1984).
- vi) Some of the fertility measures in respect of some of the states have registered a rising trend, which is also a matter of concern.
- vii) Similarly the fertility and mortality measures in rural areas remain still very high as compared to those of urban areas. This calls for mounting of adequate Family Planning and health measures in the rural sector.
- viii) So far as Infant Mortality is concerned, which is one of the proximate determinants of fertility, these states have recorded 100-140 per 1000 live births in comparison to 95 at the national level.



- ix) The death rates in these four states are also of a high order (in the range 13-16 per 1000 population) as against 11.7 for the country (SRS 1985).
- x) While linking the demographic scenario with the family planning performance it emerges that
  - a) the estimated couple protection rates as on 31st March 1987 for these States show that excepting M.P., the other lie in the range 20-26% whereas there are states like Gujarat, Haryana, Maharashtra, Punjab who have reached more than 50% CPR.
  - b) Even now among the Vasectomy and Tubectomy acceptors, mean (wife's) age of acceptor is 31.8 years and 30.3 years and the mean number of living children 3.3 and 3.5 respectively, which are on the high side.
  - c) One estimate on the age-group of contraceptive acceptors shows that only 15% of those in the lower half age group viz. 15-29 years have been protected whereas it is 55% in the upper half i.e. 30-44 years. This shows that in order to have a real dent in the population front, more and more of younger age group couples would need to be persuaded to adopt family planning/small family norm.

## 9. OUTLOOK

Based on the 1981 census data, the expert committee on population projection made several projections regarding the future course of India's population. Most of these projections place the country's population well below one billion mark by the turn of this century but it will still have a large potential for growth. It is hoped that with the new initiatives in the Family Welfare Programme, it would be possible to fulfil the long term demographic goals as envisaged leading to the population stabilisation sometime towards the middle of the 21st century.

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